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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/009,590  | 04/03/2002  | Zhi Xian Chen        | 2577-124A           | 1775             |
| 6449  | 7590        | 10/07/2004           | EXAMINER            |                  |
| ROTHWELL, FIGG, ERNST & MANBECK, P.C.<br>1425 K STREET, N.W.<br>SUITE 800<br>WASHINGTON, DC 20005 |             |                      | KUBELIK, ANNE R -   |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1638                |                  |

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/009,590

Applicant(s)

CHEN ET AL.

Examiner

Anne R. Kubelik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### DETAILED ACTION

1. Claims 1-18 are pending.

#### *Claim Objections*

2. Claims 2-18 are objected to because of the following informalities:

There should be a comma before “wherein” in claims 2-18.

In claim 3, line 1, “claims” should be singular.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Dependent claims are included in all rejections.

Claim 1 is a method of producing a transgenic cotton **plant**; however, plants are produced in step (f). The claim should be amended to make it consistent.

Claims 4-5 and 8-11 are indefinite in their recitation of “amount ... g/l”. The unit “g/l” is a concentration, not a quantitative amount. Thus, it is not clear what is intended.

It is unclear in claim 7 where embryoid germination occurs relative to the other steps of the method of claim 1.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Strickland (WO 97/12512).

Strickland teaches a method of producing a transgenic cotton plant comprising exposing petiole explants to *Agrobacterium* comprising a DNA encoding a selectable marker, culturing the explants to induce callus formation, selecting transformed callus, culturing the selected callus in suspension culture to induce embryoid formation and regenerating the embryoid into a plant, wherein the culture media does not contain hormones (claims 1-2, 4-6, 10, 12-13 and 15-16). The culture media had 30 g/l glucose as the sole carbon source (pg 20, lines 20-21 and Table 1).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Strickland (WO 97/12512) in view of Finer (1988, Plant Cell Rep. 7:399-402).

The claims are drawn to a method of producing a transgenic cotton plant comprising exposing petiole explants to *Agrobacterium* comprising a DNA encoding a selectable marker, culturing the explants to induce callus formation, selecting transformed callus, culturing the selected callus in suspension culture to induce embryoid formation and regenerating the embryoid into a plant, wherein the culture media for embryoid formation has glutamine and/or arginine as a nitrogen source.

The teachings of Strickland are indicated above. Strickland does not disclose use of a culture media for embryoid formation with glutamine and/or arginine as a nitrogen source.

Finer teaches embryoid formation within 2 weeks in a culture media with 15 mM (about 2.2 g/l) glutamine as a nitrogen source (pg 400, left column, paragraph 1). Finer also teaches a media for producing suspension cultures from callus, wherein the media has 0.1 mg/l 2,4-dichlorophenoxyacetic acid (pg 400, left column, paragraph 4).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the method of producing a transgenic cotton plant as taught by Strickland, to a culture media with a nitrogen-rich amino acid as a nitrogen source as described in Finer. One of ordinary skill in the art would have been motivated to do so because of Finer's teaching that large numbers of somatic embryos were produced (abstract) and that glutamine was advantageous for somatic embryo development in liquid culture (pg 400, right column, paragraph 5-6). Furthermore, it would be obvious to one of skill in the art to substitute a portion of the glutamine with another nitrogen-rich amino acid like arginine.

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9. Claim 18 is free of the prior art, given the failure of the prior art to teach or suggest a method of producing a transgenic cotton plant comprising exposing petiole explants to *Agrobacterium* comprising a DNA encoding a selectable marker, culturing the explants to induce callus formation, selecting transformed callus, culturing the selected callus in suspension culture to induce embryoid formation and regenerating the embryoid into a plant, wherein the culture media for embryoid formation has 3.8 g/l glutamine and/or arginine as a nitrogen source or wherein the callus formation media has 0.05 mg/l 2,4-dichlorophenoxyacetic acid and 0.1 mg/l kinetin.

### *Conclusion*

10. No claim is allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

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For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Anne R. Kubelik, Ph.D.  
October 6, 2004

A handwritten signature in black ink, appearing to read 'Anne R. Kubelik', written in a cursive style.

**ANNE KUBELIK  
PATENT EXAMINER**